

(12) **United States Patent**
Belenger et al.

(10) **Patent No.:** **US 6,784,667 B2**
 (45) **Date of Patent:** **Aug. 31, 2004**

(54) **ESTIMATED REMAINING LAMP LIFE INDICATOR SYSTEM**

(75) **Inventors:** Robert V. Belenger, Raynham, MA (US); Gennaro R. Lopriore, Somerset, MA (US)

(73) **Assignee:** The United States of America as represented by the Secretary of the Navy, Washington, DC (US)

(*) **Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 116 days.

(21) **Appl. No.:** 10/124,705

(22) **Filed:** Apr. 3, 2002

(65) **Prior Publication Data**

US 2003/0189429 A1 Oct. 9, 2003

(51) **Int. Cl.⁷** G01R 31/00; G01N 27/42

(52) **U.S. Cl.** 324/414; 324/525

(58) **Field of Search** 324/414, 525, 324/522, 555; 340/642, 458; 315/46

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,274,611 A * 12/1993 Donohoe 368/10
 6,556,017 B1 * 4/2003 Petterson 324/414

* cited by examiner

Primary Examiner—Albert Decady

Assistant Examiner—James Kerveros

(74) *Attorney, Agent, or Firm*—James M. Kasischke; Michael F. Oglo; Jean-Paul A. Nasser

(57) **ABSTRACT**

A system and method for estimating the remaining life of a light bulb, which includes a device for determining cold filament resistance of the light bulb while the light bulb is in a non-operating mode, a comparison device for comparing the cold filament resistance of the light bulb to a reference near an end of its life filament resistance, and a device for displaying an indication of a life expectancy for the light bulb. The system may be integrated into a vehicle or may be portable.

19 Claims, 2 Drawing Sheets

